

Name : KUKARKIN, B. V.

Title : Doctor of Physical and Mathematical Sciences.

Remarks : B. V. KUKARKIN is the author of an article entitled Looking out into Outer Space".

Source : M: Stantsii v Kosmose (Stations in Outer Space), a collection of articles, published by the USSR Academy of Sciences, Moskva, 1960, with foreword by Academicians A. N. Nesmeyanov and A.V. Topchiyev, p. 183.

104 10

RYBNIKOV, K.A., prof., red.; SPASSKIY, B.I., dotsent, red.; GORDEYEV, D.I.,
prof., red.; IVANENKO, D.D., prof., red.; KUDRYAVTSEV, P.S., prof.,
red.; KUKARKIN, B.V., prof., red.; KULIKOVSKIY, P.G., dotsent, red.;
MIKHAYLOV, G.K., starshiy nauchnyy sotrudnik, red.; KHRGIAN, A.Kh.,
prof., red.; SHEVTSOV, N.S., prof., red.; VERKHUNOV, V.M., assistant,
red.; KONONKOV, A.F., red.; MALIKOVA, M.A., red.; SOROKINA, L.A.,
red.; YERMAKOV, M.S., tekhn.red.

[Summaries of papers and reports of the Interuniversity Conference
on the History of Physics and Mathematics] Tezisy dokladov i soob-
shchenii Mezhvuzovskoi konferentsii po istorii fiziko-matematicheskikh
nauk. Moskva, Izd-vo Mosk.univ., 1960. 187 p. (MIRA 13:6)

1. Mezhvuzovskaya konferentsiya po istorii fiziko-matematicheskikh
nauk, 1960.

(Mathematics--Congresses)

(Physics--Congresses)

KUKARKIN, B.V.; YEFREMOV, Yu.I.; KHOLOPOV, P.N.

[The first supplement to the second edition of the general catalog of variable stars containing information on 796 variables indicated in 1960 and specified information on 1,647 previously indicated variables] Pervoe dopolnenie ko vtoromu izdaniyu obshchego kataloga peremennykh svezd, soderzhashchee svedeniia o 796 peremennykh svezdakh, oboznachennykh v 1960 g., a takzhe utochnennye svedeniia o 1647 ranee oboznachennykh peremennykh svezdakh. Moskva, Gos.astronomicheskii institut im. P.K.Shternberga Mosk.gos.univ.im.M.V.Lomonosova, 1960. 226 p.

(Stars, Variable--Catalogs)

(MIRA 14:3)

SOV/3946

PHASE I BOOK EXPLOITATION

Mikhailov, A. I., ed.

Stantsii v kosmose; sbornik statei (Space Stations; Collection of Articles) Moscow, Izd-vo AN SSSR 1960. 44 p. 25,000 copies printed. (Series: Akademiya nauk SSSR. Nauchno-populyarnaya Seriya)

Resp. Ed.: A. A. Mikhailov; Compiler: V. V. Fedorov; Ed. of Publishing House: Ye. M. Klyaus; Tech. Ed.: I. D. Morichkova.

PURPOSE: This book is intended both for the space specialist and the average reader interested in space problems.

COVERAGE: The book contains 73 short articles by various Soviet authors on problems connected with space travel and the launching of artificial earth satellites and space stations. Some possibilities of future developments are also discussed. The articles were published in the period of 1957-1960. No personalities are mentioned. There are no references.

Shklovskiy, I. I., Doctor of Physical and Mathematical Sciences. Let's Look Into Outer Space [March 22, 1956, December 11, 1957]

183

Radary, A. A., Candidate of Physical and Mathematical Sciences. Is it Possible to Observe an Artificial Planet? [April 1959]

254

Bambashev, B. Z., Active Member of the Academy of Sciences USSR. Artificial Earth Satellites and the Problem of Outer Space Flights [May 1959]

259

Kuznetsov, B. V., Doctor of Physical and Mathematical Sciences. Launching of Space Rockets and Astronomical Problems [March 1959]

264

TASS Information. Launching of a Space Rocket to the Moon by the Soviet Union [September 13, 1959]

267

This Is the Way Lennik Was Flying: [Izvestiya, September 15, 1959]

270

Shklovskiy, I. I., Doctor of Physical and Mathematical Sciences. From the Earth to the Moon [September 15, 1959]

272

Shklovskiy, I. I., Doctor of Physical and Mathematical Sciences. Here is the Artificial Comet [September 15, 1959]

275

Shklovskiy, I. I., Candidate of Physical and Mathematical Sciences. On an Outer Space Course [September 15, 1959]

277

Il'vinskiy, A. A., Corresponding Member of the Academy of Sciences USSR. In the Future - Planned Flight to the Moon [September 17, 1959]

280

Yevackimov, P. I., Candidate of Medical Sciences. From the Moon to the Earth [September 20, 1959]

284

TASS Information. First Results of Launching the Space Rocket to the Moon [September 21, 1959]

288

First Flight to the Moon [Trend, September 21, 1959]

291

Kuznetsov, B.V.

KUKARKIN, B.V.

Pavel Petrovich Parenago; obituary. Per. zvezdy 13 no. 1:3-5 Ap '60.
(Parenago, Pavel Petrovich, 1906-1960) (MIRA 14:3)

~~SECRET~~
KURKARKIN, B.V.

An unusual variable star KZP 5066 = 377.1943 Sge. Astron. tsir.
no. 21-23 Mr '60. (MIRA 13:9)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga,
Moskva.

(Stars, Variable)

S/035/60/000/011/005/010
A001/A001

Translation from: Referativnyy zhurnal, Astronomiya i Geodeziya, 1960, No. 11,
p. 28, # 11107

AUTHOR: Kukarkin, B. V.

TITLE: Remarkable Variable Star KZP 5066 = 377. 1943 Sge

PERIODICAL: Astron. tsirkulyar, 1960, 30 marta, No. 209, pp. 21-23

TEXT: Richter (RZhAstr, 1960, No. 10, # 9983) noticed that the variable star KZP 5066 slowly and continuously, apart from small irregular fluctuations, varied its luminosity from 12^m to 10^m during the time from 1928 to 1959. The variable was estimated from 51 plates of the Moscow Observatory during the time interval from 1898 to 1959. The luminosity curve is graphically presented. During 60 years, the luminosity of the variable was systematically increasing from 13.42^m to 10.60^m .

N.P.K.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

KUKARKIN, B.V.

BE Monocerotis. Astron.tsir. no.211:29 My '60.

(MIRA 13:10)

1. Gosudarstvennyy astronomicheskiy institut im. Shternberga, Moskva.
(Stars,Variable)

KUKARKIN, B.V.

Preliminary results of the investigation of variable stars in
globular cluster NGC 6171. Astron. tsir. no. 216:17-18 D '60.
(MIRA 14:4)

1. Moskva, Gosudarstvennyy astronomicheskiy institut im. P.K.
Shternberga.

(Stars, Variable)

KUKARKIN, B.V.

Identification of two variable stars in the globular cluster
MZ. Astron.tsir. no.216:29 D '60. Astron.tsir. no.216:29 D '60.
(MIRA 14:4)

1. Moskva, Gosudarstvennyy astronomicheskiy institut im. P.K.
Shternberga.

(Stars, Variable)

KUKARKIN, B.V.

Some methodological problems in the history of astronomy.
Ist.-astron.issl. no.7:131-146 '61. (MIRA 14:9)
(Astronomy--History)

KUKARKIN, B.V.; KUKARKINA, N.P.

Investigating variable stars in the globular cluster M3-NGC 5272.
Per.zvezdy 13 no.4:239-247 Mr '61. (MIRA 15:3)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga
i Astronomicheskiy Sovet AN SSSR, Moskva.
(Stars, Variable)

KUKARKINA, N.P.; KUKARKIN, B.V.

Variable stars with a Blazhko effect in the globular cluster M3.
Per.zvezdy 13 no.5:309-316 Je '61. (MIRA 15:8)

1. Astronomicheskii soviet AN SSSR, Moskva.
(Stars, Variable)

KUKARKIN, B.V.

Study of variable stars in the globular cluster NGC 6171. Per.
zvezdy 13 no.6:384-399 '61. (MIRA 16:9)

1. Gosudarstvennyy astronomicheskiy institut imeni Shternberga,
Moskva.

(Stars, Variable)

VOZROB'YEVA, V.A.; KUKARKIN, B.V.

YZ Cancri is a U Geminorum-type variable with the shortest period.
Per.zvezdy 13 no.6:428-429 '61. (MIRA 16:9)

1. Gosudarstvennyy astronomicheskii institut imeni Shternberga i
Odesskaya astronomicheskaya observatoriya.
(Stars, Variable)

KUKARKIN, B.V., prof.

New stage in astronomy. Priroda 50 no.5:14 My '61. (MIRA 14:5)
(Astronomy) (Astronautics)

KUKARKIN, B.V., prof.

Lomonosov and astronomy. Priroda 50 no.11:38-43 N '61.

(MIRA 14:10)

(Lomonosov, Mikhail Vasil'evich, 1711-1765) (Astronomy)

VORONTSOV-VIL'YAMINOV, Boris Alaksandrovich; KRASNOGORSKAYA, Alisa
Arkad'yevna; Prinimali uchastiye: TSITSIN, F.A.; PONOMAREVA,
G.A.; MAKAROV, A.N.; KUKARKIN, B.V., prof., otv.red.;
YERMAKOV, M.S., tekhn.red.

[Morphological catalog of galaxies. Part 1. Catalog of 7,200
galaxies with declinations from 90 to 45] Morfologicheski
katalog galaktik. Chast' 1. Katalog 7200 galaktik ot
90 do 45 skloneniia. Moskva, Izd-vo Mosk.univv., 1962.
205 p. (Moscow. Universitet. Gosudarstvennyi astronomicheskii
institut. Trudy, vol.32). (MIRA 16:2)
(Galaxies--Catalogs)

PEREL', Yuriy Grigor'yevich; KUKARKIN, B.V., prof., red.; YERPYLEV,
N.P., red.; KRYUCHKOVA, V.N., tekhn. red.

[Development of our concepts about the universe] Razvitie predstavlenii o vselonnoi. Izd. 2. Pod red. B.V. Kukarkina. Moskva, Fizmatgiz, 1962. 391 p. (MIRA 15:10)

(Cosmogony)

S/35/62/000/010/001/128
A001/A101

AUTHOR: Kukarkin, B. V.

TITLE: Some methodological problems of modern astronomy

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 10, 1962, 3,
abstract 10A1 ("Vopr. filosofii", 1962, no. 2, 37 - 45, 183,
English summary)

TEXT: Investigations of outer space objects make it possible to study the motion of matter under extraordinary conditions and extend the possibilities of experimental physics on Earth. Penetration of human beings into outer space enables them to conduct experiments in astronomical investigations, which inaugurate a new era in the history of astronomy. The whole series of discoveries made during the past time in the regions of physics and astronomy make it possible to pass over from speculative cosmogonic hypotheses to cosmogonic theories founded on firmly established facts, which disprove agnostic conclusions of some scientists. At the end, the author dwells on problems of ideological struggle in the field of cosmology.

[Abstracter's note: Complete translation]

I. Novikov

Card 1/1

S/026/62/000/010/001/003
D051/D114

AUTHOR: Kukarkin, B.V., Professor

TITLE: The cosmos and astronomy

PERIODICAL: Priroda, no. 10, 1962, 3-7

TEXT: In this popular article the author explains and justifies the efforts and the material means spent in cosmic research. Contradicting western "anthropocentric" views, he points out the recent achievements in science, and possible future progress by the use of artificial satellites, rockets, etc., and future material advantages expected for the benefit of mankind. A summarizing description of the most important links established by cosmic research between astronomy on the one side, and physics, geophysics and biology on the other, is given. There is 1 figure. ✓

ASSOCIATION: Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga
(State Astronomical Institute im. P.K. Shternberg), Moscow

Card 1/1

KUKARKIN, B.V.

Two new variable stars in the vicinity of the globular cluster
NGC 6171. Per.zvezdy 14 no.1:21-23 Ja '62. (MIRA 17:3)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shtern-
berga, Moskva.

VORONTSOV-VEL'YAMINOV, Boris Aleksandrovich; ARKHIPOVA, Vera Petrovna;
KUKARKIN, B.V., prof., otv.red.; DOKUCHAYEVA, O.D., red.

[Morphological catalog of galaxies. Pt 3. Catalog of 6740 galaxies
from $+15^{\circ}$ to -9° of declination]. Morfologicheskii katalog galak-
tik. Pt. 3. Katalog 6740 galaktik ot $+15^{\circ}$ do -9° skloneniia.
[Moskva] Izd-vo Mosk. univ. 1963. 260 p. (Moskva. Universitet.
Gosudarstvennyi astronomicheskii institut. Trudy, no.33).

(MIRA 17:4)

KUKARKIN, B.V., prof.

Symposium on "The galaxy and the Magellanic Clouds". Vest. AN
SSSR 33 no.7:98 J1 '63. (MIRA 16:8)
(Astronomy--Congresses)

KUKARKIN, B.V.; KULIKOVSKIY, P.G.

O.L.Struve; obituary. B.V.Kukarkin, P.G.Kulikovskii. Astron. zhur. 40 no.6:1126-1129 N-D '63. (MIRA 16:12)

KUKARKIN, B.V., prof.

Tagged stars. Priroda 52 no.9:9-16 '63.

(MIRA 16:11)

KUKARKIN, B.V., prof.

Group space flight and astronomy. Priroda 53 no. 12:87 '64.
(MIRA 18:1)

KOROTCHIN, R. Ya.; KUKARIN, B.V.

Close W Ursae Majoris-type binaries and some problems in the evolution of stars. *Astron. zhur.* 43 no. 1:83-88 Jan-F '65
(MIRA 19:2)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K. Shternberga. Submitted April 30, 1965.

14(11), 15

AUTHORS:

SOV/32-25-1-41/51
Shelyubskiy, V. I., Galaktionov, S. S., Kukarkin, G. A.

TITLE:

Machine for Testing the Bending, and Determining the Young Modulus of Glass (Pribor dlya ispytaniya na izgib i opredeleniya modulya Yunga stekla)

PERIODICAL:

Zavodskaya Laboratoriya, 1959, Vol 25, Nr 1, pp 114-116 (USSR)

ABSTRACT:

The limit of the bending strength and the Young modulus of glass are usually tested on metal testing machines (Ref 1) or on simple laboratory apparatus (Ref 2). No equal increase in stress can be adjusted there, which fact decreases the measuring accuracy, as the strength of glass considerably depends on the rate of the increase in stress (Ref 3). An apparatus was constructed which records automatically the magnitude of the destruction stress and makes possible a determination of the maximum deformation. The operation principle of the apparatus (Fig) is that a motor (by way of a worm screw) on a lever of a supporting girder displaces the stress while the other arm exerts a certain pressure upon the sample from below; thus, the sample is pressed against a support fixed above the sample. The position of this support can be adjusted and the support itself

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SOV/32-25-1-41/51

Machine for Testing the Bending, and Determining the Young Modulus of Glass

is connected with an electric contact which automatically records the stress in the case of the destruction of the sample. The magnitude of the stress is calculated according to the equation (1). The measuring accuracy depends on the production of the sample and is about 2-3%.

There are 1 figure and 4 references, 3 of which are Soviet.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy institut elektro-vakuumnogo stekla (State Scientific Research Institute of Electro-Vacuum Glass)

Card 2/2

KUKARKIN, P.; RABINOVICH, F.

Prospecting for a railroad right of way. Grazhd. av 17
no.3:18 Mr '60. (MIRA 13:6)
(Railroad engineering)

ISAYEV, N.S.; BELOVA, Ye.I.; KUKARKINA, M.N.; OZHIGANOVA, Z.I.;
SHEREMETEVSKAYA, T.A.; YURIN, B.A., red.; KOROBOVA, N.D.,
tekhn. red.

[Documents of proletarian solidarity; collected documents on the
cooperation of Soviet Union workers with the workers of Asia,
Africa and Latin America in 1918-1961] Dokumenty proletarskoi so-
lidarnosti; sbornik dokumentov o sodruzhestve trudiashchikhsia
Sovetskogo Soiuza s trudiashchimisia stran Azii, Afriki i Latin-
skoi Ameriki v 1918-1961 godakh. Moskva, Profizdat, 1962. 207 p.

(MIRA 15:12)

(Trade unions)

KUKANKINA, M. P.

Stars, Variable

Long-period Cepheid DF Lacertae. Per. zvezdy 8, No. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

KUKARKINA, N.P.

EM Lacertae, a new variable of the type of W UMa. Per.zvezdy
9 no.1:77-78 S'52. (MLRA 8:10)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shtern-
berga. (Stars, Variable)

KUKARKINA, N.P.

E0 Lacertae, a new variable of the type of β Lyrae. Per. zvezdy
9 no.1:78 S'52. (MLRA 8:10)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shtern-
berga.

(Stars, Variable)

- [illegible]

KUKARKINA, N. P.

"Variable Star BD 60° 2613", Peremennyye Zvezdy, No 6, 1953, pp 407-408

Abs

W-31146, 1 Feb 55

KUKARUKINA, N. P.

"BV Cassiopeiae" (Astrophysics, Observations of Variables), Peremennyye Zvezdy,
No 6, 1953, pp 411-412

Abs

W-31146, 1 Feb 55

KUKARKINA, N. P.

Astrophysics, Observations of Stars (1665)

Peremennyye Zvezdy, Vol 9, No 4, 1953, pp 294-296

KUKARKINA, N. P.

"The Eclipsed Variable LR Cassiopeia"

Clears up contradictions which previously existed about the variable. Points out that it belongs to type beta stars.

SO: Referativnyy Zhurnal--Astronomiya i Geodeziya, No 1, Jan 54; (W-30785, 23 July 1954.)

KUKARKINA, N.P.

Variable star HD 460°2613. Per.zvezdy 9 no.6:407-408 0 '53.
(MIRA 8:2)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K. Shternberga.
(Stars, Variable)

KUKARKINA, N.P.

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BV Cassiopeiae. Per.zvezdy 9 no.6:411-412 0 '53. (MLRA 8:2)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shtern-
berga.
(Stars, Variable)

KUKARKINA, N.F.

FLOHYA, N.P.; KUKARKINA, N.P.

57 long-period Cepheids. Trudy GAISH 23:3-61;302 et seq. '53.
(MLRA 7:5)
(Stars, Variable)

KUKARKIN, B.V.; KUKARKINA, N.P.

SS Lyrae. Astron.tsir. no.137:9-10 Ap '53.

(MLRA 6:8)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga.
(Stars, Variable)

KUKARKINA, N.P.

First plenary session of the Committee on Cosmogony. Vop.kosm.
3:329-335 '54. (MLRA 8:3)
(Astronomy--Societies)

KUKARKINA, N.P.

Using Hertzsprung's method to interpret observations of SU Cassio-
peiae. Per.zvezdy 10 no.1:57-59 Ja '54. (MLRA 8:2)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shtern-
berga. (Stars, Variable)

KUKARKINA, N.P.

Investigation of the variation in brightness of four Cepheids.
Per.zvezd. 10 no.2:92-99 Je '54. (MIRA 8:9)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shtern-
berga.

(Stars, Variable)

KUKARKINA, N.P.; PEROVA, N.B.

~~MEMORANDUM~~
BW Scuti. Per.zvezd. 10 no.2:129 Je '54. (MIRA 8:9)

1. Gosudarstvennyy astronomicheskiy institut
(Stars, Variable)

KUKARKINA, N.P.

Three long-period Cepheids. Per.zvezdy 10 no.3:175-179 0'54.
(MIRA 8:12)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Sternberga
(Stars, Variable)

KUKARKINA, N.P.

Fourth conference on problems in cosmogony, October 26-29, 1954.
Vop.kos.4:289-303 '55. (MIRA 9:4)
(Astronomy--Congresses)

KUKARKINA, N.P.

Cepheid RS Orionis. Per.zvezdy 10 no.5:323-325 '55. (MLRA 9:9)

1. Gosudarstvennyy astrononicheskiy institut imeni

P.K. Shternberga Moskva.

(Stars, Variable)

KUKARKINA, N.

A new eclipsing variable, Astron. tsir. no.183:17 J1 '57.
(MIRA 11:3)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga,
Moskva.

(Stars, Variable)

KUKARKIN, B.V.; KUKARKINA, N.P.

Investigating variable stars in the globular cluster M3-NGC 5272.
Part 1. Catalog of photographic magnitudes of 81 stars in the
outer regions of the cluster. Per.zvezdy 12 no.4:291-292 Je
'58. (MIRA 13:4)

1. Gosudarstvennyy astronomicheskiy institut im.P.K.Shternberga.
(Stars, Variable)

KUKARKINA, N.P.

Semiregular variable BD + 55° 224 Cassiopeiae. Per.zvezdy 12
no.4:314-315 Je '58. (MIRA 13:4)

1. Astronomicheskiy sovet AN SSSR.
(Stars, Variable)

80181

S/026/60/000/05/015/068
D034/D007

3.1560

AUTHOR: Kukarkina, N.P.

TITLE: The New Hercules Star Discovered in 1960

PERIODICAL: Priroda, 1960, Nr 5, p 62 and insert between pp 62 and 63
(USSR)

ABSTRACT: The article supplies some information on the efforts to complete knowledge about the new star discovered on 7 March 1960 by the Norwegian amateur-astronomer K.Hassel. It is known that at the observatories of Abastumani (Gruzinskaya SSR), at the Krymskaya astrofizicheskaya observatoriya AN SSSR (Crimean Astrophysical Observatory of the AS USSR), at the Yuzhnaya stantsiya GAISch (Southern Station of GAISch) in Crimea, many spectrograms of the new star could be obtained. Photographs and visual evaluations of the brilliance of the new star were made from 9 March in Vil'nyus, Irkutsk, Kiev, Moscow, Odessa, Rostov-na-Donu, Sverdlovsk, Tomsk. In the insert a preliminary brilliance curve is given. It became known that prior to its discovery the new

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80181

S/026/60/000/05/015/068
D034/D007

The New Hercules Star Discovered in 1960

star was photographically recorded at the observatory in Kurasiki in Japan. The photographs obtained in Japan show that by the end of February the star was below the tenth order and reached the maximum of brilliancy about 4 March. Photographs made in Moscow towards the end of March show that the brilliance of the star diminishes and towards 27 March reached the order 6.5. There is 1 insert with 2 photographs and 1 graph.

ASSOCIATION: Astrosovet AN SSSR (Astronomical Council of the AS USSR)

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KUKARKINA, N.P.

The 13th Plenum of the Committee on Variable Stars of the Astronomical
Council of the Academy of Sciences of the U.S.S.R. Astron. tsir.
no. 213:30-31 J1 '60. (MIRA 14:1)

1. Astrosoviet AN SSSR.
(Stars, Variable—Congresses)

KUKARKIN, B.V.; KUKARKINA, N.P.

Investigating variable stars in the globular cluster M3-MGC 5272.
Per.zvezdy 13 no.4:239-247 Mr '61. (MIRA 15:3)

1. Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga
i Astronomicheskiy Sovet AN SSSR, Moskva.
(Stars, Variable)

KUKARKINA, N.P.; KUKARKIN, B.V.

Variable stars with a Blazhko effect in the globular cluster M3.
Per.zvezdy 13 no.5:309-316 Je '61. (MIRA 15:8)

1. Astronomicheskii sovet AN SSSR, Moskva.
(Stars, Variable)

18.5200

75964

SOV/133-59-10-25/39

AUTHORS: Grebenshchikova, A. Z., Kukarskikh, A.

TITLE: Aging of Soap Baths for the Oiling of Parkerized Tubes

PERIODICAL: Stal', 1959, Nr 10, p 932 (USSR)

ABSTRACT: As a result of investigations the following soaping technique for parkerized tubes was adopted: (1) content of soap in the bath, 4 to 5%; (2) length of soaping, 5 to 10 min; (3) solution temperature, 40 to 50° C; (4) hydrogen ion concentration index: $P_H = 8$. The soap bath was constantly neutralized by caustic soda solution. Advantages: (1) saving of soap; (2) effectiveness of the solution was prolonged from 10 to 14 days to 4 to 5 months.

ASSOCIATION: Pervoural'sk New Pipe Plant (Pervoural'skiy novotrubnyy zavod)

Card 1/1

PLYATSKOVSKIY, O.A., kand.tekhn.nauk; Prinimali uchastiye: OSLOV, N.D.;
NODEV, E.O.; DEVIATISIL'NIY, V.I.; SULTINSKIKH, A.N.; SHANIN, P.K.;
KUKARSKIKH, V.I.; RAKHNOVETSKIY, L.Y.; DUYEV, V.N.

New technological processes used in rolling 102-170 mm. diameter
pipes of stainless steel 1Kh18N9T. Biul.nauch.-tekh.inform.VNITI
no.4/5:24-30 '58. (MIRA 15:1)

(Pipe mills)

L 30255-65 ENT(m)/ENP(u)/ENA(d)/T/ENP(t)/ENP(k)/ENP(b) Pr-4 MJA/JD/HW 47

ACCESSION NR: AP5002974

S/0133/65/000/001/0049/0052 41
B

AUTHOR: Plyatskovskiy, O. A. (Doctor of technical sciences); Yuferov, V. M. (Candidate of technical sciences); Pavlovskiy, B. G. (Engineer); Vorona, V. M. (Engineer); Lozinskaya, Ye. Ya. (Engineer); Vovsina, A. D. (Engineer); Chemerinokaya, R. I. (Engineer); Karpunko, V. B. (Engineer); Kukarekikh, V. N. (Engineer)

TITLE: Mastering the production of 1Kh15N9S3B steel pipe

SOURCE: Stal', no. 1, 1965, 49-52

TOPIC TAGS: steel pipe, pipe rolling, austenite steel, martensite steel, stainless steel, stainless steel pipe, steel phase transformation / steel 1Kh15N9S3B

ABSTRACT: Phase transformations of austenite into martensite in 1Kh15N9S3B stainless steel during cold deformation has been taken into consideration in developing the technology of hot-and cold-rolled pipes. The martensite point M_s for the deformation of this steel lies around 150C and the range of reversal from martensite to austenite is between 500 and 700C. Mass production of thinwalled 1Kh15N9S3B steel pipe is quite possible if the raw material is free of nonmetallic impurities (nitrides and carbonitrides). The above steel type (-EP302) differs from 1Kh18N10T by having a 3% lower Cr content substituted by 3% Si. It shows interesting proper-

Card 1/2

E 30055-65
ACCESSION NR: AP5002974

ties: thus, its ductility changes during hot deformation and the breakdown of unstable austenite into martensite takes place during cold deformation. Tests on the hot rolling of forged 90 mm diameter billets are described in great detail. Great accumulations of nitrides were observed. Cut-out samples were subjected to tensile strength tests at various temperatures and the content of the ferro-magnetic alpha-phase was determined. On the basis of these tests, the following procedure was recommended: first passes of cold rolling are to be done at 150C. Ready pipes are heat treated at 1050-1100C. This steel has a tendency to be hardened considerably by cold working but heat treatment later removes this hardness nearly completely. Despite martensite formation, cold rolling was satisfactory up to 60% deformation. Cold drawing was also satisfactory except for cracks where there was considerable accumulation of nitride impurities. "G. N. Syusin and B. N. Kuznetsov participated in the work." Orig. art. has: 6 figures and 2 tables.

ASSOCIATION: VNITI; Novotrubnyy zavod ("Novotrubnyy" plant)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 000

OTHER: 000

Card 2/2

I. 18475-66 ENT(d)/ENT(m)/ENA(d)/ENP(b)/ENP(k)/ENP(l) JD/EW
ACC NR: AR6009958 SOURCE CODE: UR/0137/65/000/012/D012/D013

AUTHOR: Kaufman, M. M.; Gleyberg, A. Z.; Pinkel'shteyn, Ya. S.; Kuryatnikov, A. V.;
Kukarskikh, V. N.; Chemerinskaya, R. I.; Salyuk, L. A.; Pil'nikova, N. N.; Vedyakin,
N. M.; Sultinskikh, A. N.; Kalugin, Ya. P.

ORG: none

TITLE: Improving the quality of stainless steel pipe

SOURCE: Ref. zh. Metallurgiya, Abs. 12D101¹⁴₅₇

REF SOURCE: Sb. Proiz-vo svarn. i besshovn. trub. Vyp. 4. M., Metallurgiya, 1965,
51-59

TOPIC TAGS: stainless steel, pipe, metal rolling, metal heat treatment, metal
inspection, steel/Khl8N10T steel

TRANSLATION: An intensified process is developed for heating metal. Experimental rolling showed that use of this process reduces scrap due to flaws on the interior surface of pipes to $\frac{1}{2}$ at primary inspection. Reducing temperature for metal heating and pipe rolling and increasing feed angle of rolls on the piercing mill (10° - $10^{\circ} 30'$) improves pipe quality. Khl8N10T steel with a high concentration of α -phase (14-16%) results in an increased rate of pipe scrap at initial inspection (up to 70%), as well as a high percentage of rejects at final inspection (up to 70%), as well as a high percentage of rejects at final inspection (up to 15%). Therefore this grade of steel with an α -phase concentration of more than two points ball cannot be recommended for pipe production. L. Kochanov. [JPRS]

Card 1/1 SUB CODE: 13

UDC: 621.785.1

EX(j)/ENI(d)/ENP(a)/ENT(m)/EPF(c)/EPH(1)/EMA(d)/EMP(v)/EPR/T/
EPR(t)/EPR(k)/EPR(h)/ENR(b)/ENP(1)/EMA(c) PR-4/PR-4/EC-4 BW/JD/WW/RW/DJ/

ACCESSION NR: AP5014865

UR/0133/65/000/006/0549/0550
621.774.35: 621.893

AUTHOR: Grebenshchikova, A. Z.; Lydova, A. A.; Kaufman, M. M.; Gleyberg, A. Z.;
Nodev, E. O.; Kukarskikh, V. N.; Stoletniy, M. P.; Stern, V. A.

TITLE: Lubricant for tube rolling in a continuous mill

SOURCE: Stal', no. 6, 1965, 349-350

TOPIC TAGS: graphite lubricant, continuous tube mill, smokeless lubricant, antifriction, nine high mill, inorganic compound, seamless tubing, hot deformation

ABSTRACT: Lubricants consisting of graphite and different petroleum products are widely used in the production of seamless tubing by hot-deformation methods, particularly in the continuous rolling mills with long mandrels as well as in power presses. Although these lubricants are relatively uninvestigated, it is known that graphite at high temperatures (900-1200°C) loses its antifriction properties. Besides, the combustion of the petroleum products in the lubricants contaminates the atmosphere and equipment in the shop. There also exists the vitreous type of lubricants, used only for the pressing of tubes from high-alloy steels, and equally difficult and expensive to fabricate. The techniques of applying the lubricant are of major importance, and their mechanization is

L-53983-65

ACCESSION NR: AP5014865

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advisable, particularly in the modern automatic continuous tube rolling. Further, the author describes tests of nine selected lubricants, including those recently developed on the basis of inorganic compounds -- salts of chloride and phosphate.

(Phosphorus - and chlorine - containing lubricants form phosphides and chlorides on the contact surfaces and the resulting boundary film prevents the interlocking of metals, reducing the friction coefficient.) The effectiveness of the selected lubricants was tested while rolling tubes in the 18 m long mandrel of a continuous nine-high mill with nine individual power drives, the lubricants being evaluated and compared according to the load on the motors of the principal stands of the mill (6th to 8th) and the sliding rate of tube from the mandrel. Compared with the graphite fuel oil lubricant 9 and the other seven lubricants tested, lubricant 7 proved to be the most effective. The exact composition of this lubricant is not described, but the author states that it was developed on the basis of "inorganic compounds" and has a density of 1.65 g/cu cm, bulk weight of 0.98 ton/cu m, melting point of 850-900°C, and solubility of 64% in water. This smokeless lubricant displays the best antifriction properties and ensures a normal rolling process. Its components do not consist of scarce materials and therefore

Card 2/3

L-53983-65

ACCESSION NR: AP5014863

it is considerably (about six times) less expensive than graphite-fuel oil lubricants. Orig. art. has: 1 figure, 1 table.

ASSOCIATION: none

SUBMITTED: 000

ENCL: 00

SUB CODE: FP,
MM

NO REF SOV: 001

OTHER: 001

Card 3/3

L 00558-66 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(k)/EWP(b)/EWP(z)/EWA(c)
MJW/JD/HW

ACCESSION NR: AP5019945

UR/0133/65/000/008/0730/0734
621.774.35

AUTHORS: Teterin, P. K.; Luzin, Yu. F.; Kats, G. I.; Kaufman, M. M.; Kukarskikh, V. N.

TITLE: Manufacture of stainless steel pipes with low nickel content

SOURCE: Stal', no. 8, 1965, 730-734

TOPIC TAGS: stainless steel pipe, stainless steel, steel alloy / EP53 steel, EP54 steel, OKh21N6M2T steel, OKh21N5T steel

ABSTRACT: The plastic properties and structure of new low-nickel alloys OKh21N5T (EP53) and OKh21N6M2T (EP54), recommended as substitutes for steels 1Kh18N9T and 1Kh18N12M2T, were investigated at TsNIIChM; the technology of pipe rolling from these steels was developed and introduced at Novotrubnyy zavod. By hot twisting it was found that plasticity of the steels increased steadily with working temperature (1000-1250C) and rose sharply above 1200C. Thirty specimens were pierced at different temperatures (3 of each steel at 1050, 1100, 1150, 1200, 1250C), and impact strength and microstructure were investigated. It was found that the impact strength at room temperature decreased as piercing temperature increased,

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L 00558-66

ACCESSION NR: AP5019945

10

dropping sharply above 1200C (from 20 and 14 kgm/cm² at 1200C to 14 and 7 kgm/cm² at 1250C for EP53 and EP54 respectively) and that the grain size increased above 1200C. Thus for satisfactory mechanical and surface properties the working temperature should be kept at $\approx 1150C$. Comparison of pressure on the rollers and power requirements between these steels and expensive alloys 1Kh18N9T and 1Kh18N12M2T showed these to be 30-40% lower (on the average) for the new alloys. After hot-rolling into 41 x 4.5-mm pipes (at 7° feed, roller speed 2.0 m/sec, wall thickness reduction 32%, drawing coefficient 1.8-1.85, final temperature 950-1000C) the alloy properties were found to be $\sigma_B = 70.1, 63.0 \text{ kg/mm}^2$; $\sigma_5 = 29.3, 29.5\%$; $a_k = 19.8, 16.1 \text{ kgm/cm}^2$ for EP53 and EP54 respectively after quenching from 1050C in water. Based on these results, technical parameters were defined for making pipes (ChMTU/UkrNITI No 313-61) and pipe blanks (ChMTU/TsNIChM No 569-61). After rolling 108 x 5.5 mm and 89 x 4.5 mm pipes under industrial conditions it was found that the best heat treatment consisted of 8-10 minutes at 970C and quenching in water (for both steels). Orig. art. has: 4 figures and 6 tables. ASSOCIATION: TsNIChM (TsNIChM); Novotrubnyy zavod (New Pipe Plant)

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, IE

NO REF SOV: 000

OTHER: 000

Card 2/2

HILLER, Jozsef; KUKASZ, Gyorgy, Dr.

Planning according to value, quantity and time in the German
Democratic Republic. Epites szemle 5 no.2:49-53 '61.

KIKARTSEV, A.N., inzh.; POLESHCHUK, B.I., inzh.; BOLDYREV, P.I., inzh.;
VAYGUROVA, R.I., tekhnik.

Investigating coal seam breaking by means of a cone wedge in
mining the Second Internal. Sbor. KuzNIUI no.10:165-176 '64.
(MIRA 18:9)

KUKATELADZE, K. S.		PROCESSES AND PROPERTIES INDEX	
<p>Formation of magnesium silicates in the solid phase. K. S. KUKATELADZE AND V. I. LUTSENKO. <i>Ogneupory</i>, 14 (11) 400-406 (1949).—The problem was investigated by studying the reactions and processes of the following mixtures: (1) $2\text{MgO} + \text{SiO}_2$, (2) $10\text{MgO} + \text{SiO}_2$, and (3) $\text{MgO} + 10\text{SiO}_2$. Isothermal firing was at 900° to 1500°C. The mineralogical composition of the fired mixtures was determined with a microscope, and quantitative determination of phase composition was made by selective solution in dilute HCl. Results indicate that successive reactions in the formation of Mg silicates in the solid phase are (1) $2\text{MgO} + \text{SiO}_2 = \text{Mg}_2\text{SiO}_4$, and (2) $\text{Mg}_2\text{SiO}_4 + \text{SiO}_2 = 2\text{MgSiO}_3$. The rate of formation of clinoenstatite was much less than that of forsterite at the same firing temperature. Regardless of the proportion of the components in the mixture, the formation of analytically determinable amounts of clinoenstatite started at 1200°, while for forsterite it was 900°. The larger the excess of SiO_2 above the stoichiometric amount for forsterite, the lower was the temperature and the shorter was the time interval for the appearance of the first amounts of clinoenstatite. Forsterite mixture, and mixtures close to it, were very sensitive to unequal mixing of the components; an excess of SiO_2 in separate sections of the mixture resulted in the formation of clinoenstatite when fired above 1200°. An increase in the "mobility" of the structural particles of solid phases with rising firing temperature is the general condition for the rapid development of reactions and accompanying processes (diffusion, polymorphic changes, and recrystallization). 4 photomicrographs. B. Z. K.</p>			
<p>ASB 15A METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>SECTION SYMBOL</p>		<p>SECTION NO. ONE ONE</p>	
<p>SECTION NO. ONE ONE</p>		<p>SECTION NO. ONE ONE</p>	

PAVLOV, Yu.V.; KUKATOV, N.I.

Reconstruction of a continuous heating furnace. Metallurg 9 no.1:
31-32 Ja '64 (MIRA 18:1)

1. Yuvenergomettallurgprom i Konstantinovskiy metallurgicheskiy
zavod.

KURAVADZE, G. M.; KONIKOVA, A. B.; KRITSMAN, M. G.; GARMATSKAYA, T. A.; DAVIDOVA, G. M.;
OTTESEN, B. V.; MEN'SHIKOV, M. I.; GOLDIN, L. L.

"Investigation on the Restoration of Dicarboxylic Aminoacids in the Blood,
with the Aid of Heavy Carbon C¹³," Dokl. AN SSSR, 66, p. 899-900, 1949.

KUKAVADZE, G. M., GOLDIN, L. L., ANIKINA, M. P. and ERSHLER, B. V.

"Determination of the Absorption Cross-Section and of the Radiation Capture Cross-Section of Uranium - 233 for Pile Neutrons," a paper presented at the Atoms for Peace Conference, Geneva, Switzerland, 1955

KUKAVADZE, G.M.; GOL'DIN, L.L.; ANIKINA, M.P.; ERSHLER, B.V.

[Measurement of the cross sections of the absorption and radiative capture of neutrons in U^{233} and the pile neutron spectrum] Izmerenie sechenia pogloshchenia i sechenia radiatsionnogo zakhvata urana-233 dlia kotel'nogo spektra neitronov. Moskva, 1955. 13 p. (MIRA 14:7)

(Neutrons—Capture) (Mass spectrometry)
(Uranium—Isotopes)

KUKAVADZE, G. M.

609-RML

Yields of neodymium and cerium isotopes from the fission of uranium-235. G. M. Kukavadze, M. P. Anikina, L. L. Gorbunov, and H. V. Voznesenskiy. *Atomska Energiya* 20:1-2, 1955. *Zhurnal Obshch. Khim.* 23:1-2 (Moscow), 205-9 (English summary). The fission yields of various isotopes of Ce and Nd were detd. mass spectroscopically by the isotope diff. method. The yields are as follows: Ce^{140} , $8.6 \pm 0.17\%$; Ce^{142} , $5.6 \pm 0.17\%$; Nd^{144} , $8.16 \pm 0.3\%$; Nd^{146} , $3.37 \pm 0.1\%$; Nd^{148} , $3.61 \pm 0.2\%$; Nd^{150} , $2.34 \pm 0.15\%$; Nd^{152} , $0.5 \pm 0.08\%$; and Nd^{154} , $0.51 \pm 0.04\%$. The yields of the Ce isotopes are detd. with an accuracy of $\pm 0.1\%$, that of the Nd isotopes with an accuracy of $\pm 0.2\%$. The fission yields curve in this heavy mass region is displaced toward the heavy end by one mass unit relative to the curve for the lighter isotopes.

(3)

Inst. Biochem. Chem., AMS USSR

USSR / Isotopes.

B-7

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26035

Author : M.Ya. Kats, G.M. Kukavadze, R.L. Serdyuk

Title : The Coefficient of Separation of Liquid BCl_3 and Its Vapor by Chlorine Isotopes.

Orig Pub : Zh. tekhn. fiziki, 1956, 26, No 10, 2401 - 2402

Abstract : As the result of BCl_3 rectification at 23° , the ratio of isotopes $\text{B}^{11}/\text{B}^{10}$ was altered from 4.13 ± 0.02 to 3.60 ± 0.02 , and that of $\text{Cl}^{35}/\text{Cl}^{37}$ from 3.05 ± 0.02 to 2.94 ± 0.02 . Provided the number of theoretical plates in the column with reference to the isotopes of B and Cl was the same, the separation factor (SF) between the liquid BCl_3 and its vapor with reference to the Cl isotopes is equal to 1.001, if the SF with reference to the B isotopes was equal to 1.004. Molecules of $\text{B}^{11}\text{Cl}^{35}$ possess the greatest volatility, and those of $\text{B}^{10}\text{Cl}^{37}$ possess the least.

Card : 1/1

KYKAVADZ E, G. (1)

Two-filament ionic sources with surface ionization for the mass spectrometry. R. M. Ivanov and G. M. Kikavadas. *Prilozh. k Zhurn. Khimicheskoi Fiz.*, No. 1, 1968, 22-23. (Zh. Fiz. Khim., 1968, 42, No. 1, 10-11, 1968)

This article is devoted to the mass spectrometer which is used for analysis of gases and which is based on surface ionization. In conventional thermionic sources, the solid evaporation from one emitter in the form of neutral atoms, while in the described source the atoms evaporate from one filament, and ionization takes place on another one. The field of evaporation of the ionization increases and decreases in different directions by the two filaments.

077

KUKAVADZE, G.M.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1830
 AUTHOR KAC, M.JA., KUKAVADZE, G.M., SERDJUK, R.L.
 TITLE Enrichment of Boron with the Isotope B^{10}
 PERIODICAL Zhurn.techn.fiz., 26, fasc.12 (2744-2748 (1956)
 Issued: 1 / 1957

It was the purpose of this work to work out a plan for a laboratory plant for the winning of boron which is enriched with B^{10} . This problem was solved by the rectification of BCl_3 . At first the plant is described. From the data mentioned it may be seen that 1. The time in which isotopic equilibrium is established amounts to less than 20 hours. 2. With the isotopic equilibrium established between the liquid BCl_3 and its vapor the concentration of the gas (B^{11}) surpasses that of the liquid. 3. On the occasion of the rectification of BCl_3 the distribution coefficient between the liquid and the vapor with respect to boron isotopes is $\alpha = 1.0043$ at $23^\circ C$. In the same plant the attempt was made to obtain a certain quantity of BCl_3 which was enriched with B^{10} . Measuring results obtained for the ratio of $\frac{B^{11}}{B^{10}}$ concentrations in 21 successive cases of extraction are shown together in a table. The analysis of all measurements showed that the entire enrichment diminishes somewhat in the course of time. Measurements of the isotopic composition of chlorine showed in the various samples that the distribution coefficient with respect to chlorine isotopes between BCl_3 and its vapor is less

Žurn.techn.fis, 26, fasc.12 2744-2748 (1956) CARD 2 / 2 PA - 1830
 than 1.001. The isotope analysis of BCl_3 was carried out in a mass spectrometer.
 According to works by SJUTCE, OSBERGHAUS, and THODE, MACNAMARA, LOSSING, and
 CALLINS, as well as the unpublished works by the authors the measuring results
 with respect to the ratio:

$\frac{\text{B}^{11}}{\text{B}^{10}}$ for the "initial" product apparently in every concrete case depend on the
 place where boron was found. Besides it depends on the method of winning the re-
 spective boron compound and fluctuations between

$\frac{\text{B}^{11}}{\text{B}^{10}}$ and 4.10 - 4.46. The difference of this ratio for various boron compounds
 is ten times the amount of measuring errors.

INSTITUTION:

KUKAVADZE, G.M.

AUTHORS: Gorshkov, V.K., Ivanov, R.N., Kukavadze, G.M.,
Reformatskiy, I.A.

89-7-2/32

TITLE: The Yield of Fission Products of U^{235} Within the Domain of Rare
Earths (Vykhod produktov deleniya U^{235} v redkozemel'noy oblasti)

PERIODICAL: Atomnaya Energiya, 1957, Vol. 3, No 7, pp. 11-14 (USSR)

ABSTRACT: The present paper describes the measuring of these yields by means
of the integral mass-spectrographic method, with the help of which
the relative share (in %) of several elements contained in the
sample can be determined simultaneously during the experiment.
This method permits the mass-spectroscopical measuring of the yields
on La^{139} , Pr^{141} , Pm^{147} and Pm^{149} . Working out this method and
measuring took place on a mass spectrograph with a resolving capac-
ity of 1 : 800. First, the production of the samples is discussed.
The uranium preparation enriched somewhat with U^{235} was here irra-
diated with thermal neutrons in a reactor. The final results of
these mass-spectrographic measurements are shown in a table and are
compared with some data given in publications.

Card 1/3

Lanthanum, praseodymium, promethium, samarium: The increased yield
of La^{139} can hardly be explained by means of the hitherto existing

The Yield of Fission Products of U^{235} Within the
Domain of Rare Earths

89-7-2/32

theoretical investigations concerning the course of the curve of the yields. The peak "composed" from Pm^{147} and Sm^{147} was separated on the basis of the difference between the sublimation temperatures of samarium and promethium. According to various details given concerning the above mentioned elements the authors compute the cross section of the absorption of neutrons for Pm^{147} and find:

$\sigma_{147} = 90 \pm 20$ barn. $\sigma_{Sm}^{147} = 1000 \pm$ barn.
Neodym: The yields of: Nd^{143} and Nd^{144} given here are somewhat lower than those given in publications. Cerium: Two isotopes are contained mainly in the sample investigated here, namely Ce^{140} and Ce^{142} with the ratio of the masses $M_{140}/M_{142} = 1,082 \pm 0,029$. The lack of noticeable amounts of Ce^{144} is explained by their decay in Nd^{144} . Samarium: For the lower limit of the absorption cross section of Sm^{149} for thermal neutrons the value $58\ 000 \pm 9\ 000$ barn is found. The following composition of isotopes for samarium was found by the authors (in %):

Card 2/3

89-7-2/32

KUKAVADZE, G. M.

AUTHORS: Ivanov, R. N., Gorshkov, V. K., Anikina, M. P., 89-12-11/29
Kukavadze, G. M., Ershler, B. V.

TITLE: Fission Yields of Several Heavy Fission Products of U^{233}
(Vykhody nekotorykh tyazhelykh oskolkov pri delenii U^{233})

PERIODICAL: Atomnaya Energiya, 1957, Vol. 3, Nr 12, pp. 546-547 (USSR)

ABSTRACT: The absolute fission yields were determined by means of the
isotope dilution method (1) and of the mass spectrographically
obtained integral concentrations (2). The sample of U^{233} was
irradiated for two months in a reactor.
The following yields in % were measured:

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Fission Yields of Several Heavy Fission Products of U^{235}

89-12-11/29

Absolute Yield according to

Isotope	Method 1	Method 2
Cs ¹³³	5,2 ± 0,3	5,50 ± 0,13
Cs ¹³⁷	5,8 ± 0,3	6,16 ± 0,14
Ce ¹⁴⁰	5,45 ± 0,50	6,16 ± 0,24
Ce ¹⁴²	5,5 ± 0,5	6,06 ± 0,24
Ce ¹⁴³	5,0 ± 0,3	5,19 ± 0,17
Nd ¹⁴⁴	3,8 ± 0,4	3,84 ± 0,15
Nd ¹⁴⁵	2,82 ± 0,25	2,88 ± 0,08
Nd ¹⁴⁶	2,20 ± 0,15	2,24 ± 0,07
Nd ¹⁴⁸	1,03 ± 0,10	1,07 ± 0,04
Nd ¹⁵⁰	0,51 ± 0,08	0,49 ± 0,02
Nd ¹⁴⁹	0,66 ± 0,13	0,70 ± 0,03
Sm ¹⁵¹⁺¹⁵²	0,60 ± 0,14	-- --
Sm ¹⁵¹	-- --	0,54 ± 0,03

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Fission Yields of Several Heavy Fission Products of U^{233} 89-12-11/29

The Xe^{135} absorption coefficient was determined at

$(3,2 \pm 1,0) \cdot 10^6$ b.

(There are 1 table, 1 figure and 8 references, 5 of which are Slavic).

SUBMITTED: May 20, 1957

AVAILABLE: Library of Congress

Card 3/3

KUKAWADZE, G. M.

MURIN, A. N., ERSHLER, B. V., KUKAWADZE, G. M., ANIKINA, M. P., GORSHKOV,
V. K., IVANOV, R. N., KRIZANSKIY, L. M. and REFORMATSKIY, I. A.

"Mass-Spectrometric Study of U^{233} , U^{235} and Pu^{239} Fission Products."

paper to be presented at 2nd UN Intl. Conf. on the peaceful uses of Atomic
Energy, Geneva, 1 - 13 Sep 58.

RUKAVADZE, G. M.

AUTHORS: Anikina, M. P., Ivanov, R. N., 89-2-22/35
Rukavadze, G. M., Ershler, B. V.,

TITLE: The Half-Life of Sr^{90} and Its Fission Yield from U^{233} (Period
 poluraspada Sr^{90} i vykhod ego pri delenii U^{233}).

PERIODICAL: Atomnaya Energiya, 1958, Nr 2, pp. 198-198 (USSR)

ABSTRACT: According to the usual method the half-life of Sr^{90} was
 determined to be $29,3 \pm 1,6$ a.
 The yields of Sr^{90} and Sr^{88} in the $\text{U}^{233}(\text{n},\text{f})$ reaction were de-
 termined to be $5,3 \pm 0,3$ % for Sr^{88} and
 $5,8 \pm 0,4$ % for Sr^{90} .
 The yield for Sr^{90} given in reference 7 must be calculated a
 new, as the half-life period of 19,9 a was still used there.
 When the newly determined half-life period is used, the yield
 in this case amounts to $6,3 \pm 0,3$ %. There are 1 table and 7
 references, 4 of which are Slavic.

SUBMITTED: September 18, 1957

AVAILABLE: Library of Congress

Card 1/1 1. Half life-Measurement 2. Strontium 90-Half life-Measurement

AUTHOR: Kukavadze, G. SOV/89-5-4-19/24

TITLE: The Dresden Molecular Mass Spectrograph (Drezdenskiy molekulyarnyy mass-spektrograf)

PERIODICAL: Atomnaya energiya, 1958, Vol 5, Nr 4, pp 476-476 (USSR)

ABSTRACT: At a conference of the German Physical Society held at Dresden on April 27, 1958, Professor Manfred von Ardenne spoke about a mass spectrograph developed by himself, which contains, as an innovation, an ion source with electron capture. In this source the possibility of a decay of complicated molecules into less complicated molecules or atoms is excluded. This is attained by a constriction of the plasma in a low-voltage discharge. The new device makes it possible to investigate organic molecules and macromolecules, which will be of importance for the chemistry of mineral oils and polymers.

Card 1/1

KURAVADZE, G. M.

21(6)
 1. International Conference on the Nuclear Mass of Atomic Matter, M., Moscow, 1958
 (Mallya avestazh shchepki) Podrobnaya stizha (Reports of Soviet Scientists)
 Nuclear Physics) Moscow, Atomizdat, 1959. 528 p. (Series: This Study, Vol. 2)
 8,000 copies printed.

2. (Title page) A.I. Alkhazov, Academician V.I. Vukobrat, Academician and
 I.A. Vlasov, Candidates of Physical and Mathematical Sciences, M. of this
 volume, A.I. Brodsky and S.P. Zavitskiy, Candidates of Physical and Mathematical
 Sciences; M. (Chudskaya kniga); G.I. Smolyan; Zhuk. Ser. Ser. X.I. Nauka.

3. This collection of articles is intended for scientific research workers
 and other persons interested in nuclear physics. The volume contains 45 papers
 presented by Soviet scientists at the Second Conference on Nuclear Mass of
 Atomic Matter, held in Moscow in September 1958.

4. It is divided into two parts. Part I contains 17 papers dealing with
 plasma physics and controlled thermonuclear reactions; and Part II contains 28
 papers on nuclear physics, including problems of particle interaction and of
 cosmic ray physics. The first part by I.A. Alkhazov presents a review of
 Soviet work on controlled thermonuclear reactions. The second part is

Part I deal with particular problems in this field. Papers in Part II deal with various problems in nuclear physics,
 such as the fusion of heavy atoms and their isomeric states and with the study of
 cosmic radiation by means of artificial earth satellites and rockets, described
 in a paper by S.E. Kuznetsov. The Russian-language edition of the proceedings of
 the conference is published in 16 volumes. The first 6 volumes contain all the
 papers presented by Soviet scientists as follows: Volume (1), Subatomic
 fields (Nuclear Physics); Volume (2), Subatomic matter (Nuclear Physics);
 (Nuclear Matter and Nuclear Power); Volume (3), Subatomic processes generally
 (Nuclear Fuel and Nuclear Waste); Volume (4), Kinetic relationships; radi-
 ochemistry; general chemistry (Chemistry of Radioelements and of Nuclear Trans-
 formations); Volume 5, Radiobiology; radiobiological medicine (Radiobiology
 and Radiation Medicine); Volume (6) Radiobiology; radiobiological medicine (Pre-
 diction and Use of Isotopes). The other 10 volumes contain abstract papers
 presented at the Conference. The Russian-language edition of the proceed-
 ings has been asked in three articles where the facts are not identical.
 V.I. Vukobrat, et al., "High Current Pulsed Beams", Abkhazov, et al.,
 "High Frequency Plasma Oscillations", and Smolyanov, "Investigations of the Ray-
 body Problem". The serial numbers of reports 2508 and 2509 are reversed in the
 Russian edition. Report 2221, by Smolyanov, et al., is numbered 2526 in the
 Russian edition.

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Artemukhina mentioned includes Dr. Malyt and S.E. Frobenyukhina.	

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5(4) 28(5)

AUTHOR: Kukavadze, G. M.

SOV/76-33-6-42/44

TITLE: ~~Research~~ Day Possibilities of Mass Spectrum Analysis of Solid Substances (Sovremennyye vozmozhnosti mass-spektral'nogo analiza tverdykh veshchestv)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 6, pp 1434 - 1437 (USSR)

ABSTRACT: As the determination of impurities in materials used for the manufacture of semiconductors is gaining in importance, the present paper deals with the corresponding applicability of mass spectroscopic analysis. The different working methods are compared with their measuring sensitivity. The methods of the "vacuum spark", of the "high-temperature ray source" and of the "bifilar thermoion ray source" are explained, and it is stated, among other things, that some drawbacks of the first-mentioned method are eliminated by carrying out a bombardment of the sample with ions (Refs 4,6,7), which (in contrast to the electron irradiation) considerably intensifies the emission of secondary ions. An advantage of the second-mentioned method (Ref 9) lies in the circumstance that the percentage content of some elements

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Present Day Possibilities of Mass Spectrum Analysis of Solid Substances SOV/76-33-6-42/44

in the sample can be simultaneously determined (Ref 10); but the method can only be applied to certain elements. For the analysis by the first-mentioned method, some milligrams of the sample are required, by the second-mentioned only some tenth or hundredth parts of a milligram, and by the last-mentioned method, only some micrograms or even less. Subsequent to the above-mentioned methods, the method of isotopic dilution (Refs 4,12), which was first applied in biology under the term of "method of the inner standard" (Ref 13), is explained, and it is stated that this method is more sensitive than the 3 above-mentioned methods. There are 15 references, 6 of which are Soviet.

SUBMITTED: August 6, 1958

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S/081/62/000/006/009/117
B166/B101

AUTHORS: Agafonov, I. L., Kukavadze, G. M., Borisov, G. K., Orlov, V. Yu.

TITLE: Mass spectra of monosilane and monogermane

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 6, 1962, 16, abstract 6B76 (Tr. po khimii i khim. tekhnol. (Gor'kiy), no. 2, 1961, 227 - 229)

TEXT: The mass spectrum of monosilane SiH_4 was taken and calculated for the monoisotopic spectrum. The intensities of the ion currents of SiH_4^{++} , SiH_3^+ , SiH_2^+ , SiH^+ , and Si^+ are in the ratio of 0.4 : 73.5 : 100 : 26.5 : 25.8 (for the MC-4(MS-4) instrument). Using these data as well as data on the monoisotopic mass spectra of CH_4 and GeH_4 as a basis the authors confirm the rule that there is an increase in the probability of dissociation with an increase in mass of the molecule. It is concluded that the law according to which ions, obtained when an odd number of hydrogen atoms is lost, are

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Mass spectra of monosilane and monogermane

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B166/B101

formed in a relatively large quantity during dissociation cannot be extended to the aforesaid compounds (CH_4 , SiH_4 , and GeH_4). [Abstracter's note:

Complete translation.]

Card 2/2

20718

18.7530 1145

S/120/61/000/001/061/062
E032/E114

AUTHORS: Kukavadze, G.M., Ivanov, R.N., and Zhuravleva, V.G.

TITLE: Production of Films of High Melting Point Materials
in Vacuum

PERIODICAL: Pribery i tekhnika eksperimenta, 1961,⁶No.1, p 195

TEXT: One of the methods of producing thin films of high melting point materials is by condensing the vapours of these materials, produced by electron bombardment of solid specimens in vacuum. The present authors have used one of the possible versions of this method to obtain pure deposits of cobalt, iridium and rhodium. The principle of the method is illustrated in Fig.1. The metal to be evaporated 1, which is in the form of a rod in the case of cobalt, a wire in the case of iridium and a strip in the case of rhodium, is inserted into the ceramic holder 3 and is heated by the tungsten spiral 2. A voltage of +2.5-3 kV is applied to the specimen 1 through the lead 4. The spiral is earthed and carries a current of 4 to 4.5 A. The spiral consists of 2.5 turns and is made of a wire 0.2 mm in diameter. The emission current from the spiral is 15-20 mA and the electrons from Card 1/2

X

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E032/E114

Production of Films of High Melting Point Materials in Vacuum

the spiral bombard the metal, raising it to a high temperature. In the case of cobalt, a drop of the metal is kept by surface tension forces at the end of the ceramic tube. The cobalt does not interact with the ceramic and the evaporation occurs from the surface of the drop. In the case of evaporation of iridium and rhodium the end of the wire or strip melts, and the resulting liquid drop serves as the source of vapour. The method has been used to produce pure cobalt films 0.15-0.4 μ thick, having well-defined magnetic properties when deposited on glass slides 140 x 110 x 30 mm³. Iridium and rhodium deposits about 0.1 μ thick have also been obtained on mass-spectrometer ion-source elements. There are 1 figure and 3 Soviet references.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki
AN SSSR
(Institute of Theoretical and Experimental Physics,
AS USSR)

Card 2/2

SUBMITTED: December 29, 1959

KUKAVADZE, G. M.

216730

S/120/62/000/004/034/047
E140/E420

AUTHORS: Talyzin, A.N., Gol'din, L.L., Trokhachev, G.V.,
Radkeyvish, I.A., Mozalevskiy, I.A., Sokolovskiy, V.V.,
~~Kukavadze, G.M., Belozeroval, L.A.~~ Borisov, V.S.,
Bysheva, G.K., Veselov, M.D., Goryachov, Yu.M.

TITLE: Investigation and correction of the magnetic
characteristics of the proton synchrotron C-blocks at
small fields

PERIODICAL: Pribery i tekhnika eksperimenta, no.4, 1962, 184-192

TEXT: Comparative measurements are made on the C-blocks in the
residual field (~ 35 Oe) the injection field (87 Oe) and the
field at the beginning of the acceleration cycle (117 Oe). The
iron for the magnet blocks was not pre-selected. This had no
substantial effect on differences in the dynamic characteristics
of the C-blocks, but the differences in residual field
constituted 4.25% on the average and reached up to 10%.
The mean-square deviation of the magnetic induction was 4.25%,
and 1.4% in the injection field, thus exceeding by far the allowable
tolerances. The variations were compensated by shunt resistances
Card 1/2

JB

Investigation and correction ...

S/120/62/000/004/034/047
E140/E420

and by changing the order of the blocks. The present article is concerned with the measurement of the magnetic field intensity and its gradient in the residual field, the compensation by resistances connected across compensation windings, compensation of C-blocks at injection, with investigation of the dynamic characteristics. The equilibrium orbit in the synchrotron has not yet been studied in detail but it is found that either as a result of these corrections or the arrangement of the blocks, the loss of particles is fairly small. There are 7 figures and 1 table.

ASSOCIATIONS: Institut teoreticheskoy i eksperimental'noy fiziki
GKAE (Institute of Theoretical and Experimental
Physics GKAE)
Nauchno-issledovatel'skiy institut elektrofizicheskoy
apparatury GKAE (Scientific Research Institute
for Electrophysical Apparatus GKAE)

SUBMITTED: March 31, 1962

Card 2/2

ACCESSION NR: AP4036526

S/0089/64/016/005/0423/0426

AUTHOR: Memelova, L. Ya.; Kukavadze, G. M.; Ershler, B. V.

TITLE: Mass spectrometric determination of very small amounts of boron in certain materials

SOURCE: Atomnaya energiya, v. 16, no. 5, 1964, 423-426

TOPIC TAGS: boron determination, boron mass spectrometry, isotopic dilution method, analytical chemistry, boron, mass spectrometry

ABSTRACT: The method of isotopic dilution suggested by G. Morrison and R. Rupp (Analyt. Chem. 6, (1957), 892) was used for the determination of small amounts of boron of the order of 10^{-7} gm in glass, quartz, and silicon. The sample was dissolved (or fused) in sodium hydroxide, internal standard was added which consisted of a known amount of an almost pure boron isotope (e.i. B^{10}), borax was then separated electrolytically, and placed on the filament of the mass spectrometer. The purpose of the pure isotope addition is to render harmless the boron losses during the chemical manipulations, as the determination depends only on the ratio of the spectrometric maxima of $Na_2B^{10}O_2$ to $Na_2B^{11}O_2$ and the comparison with the

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